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## (54) **Photomultiplier**

(57) An electron lens electrode (5) for guiding photoelectrons emitted from a photocathode (2) to an electron multiplier section is arranged between the photocathode and the light-incident portion of a sealed container, and an opening (15a) is formed at a portion of the electron lens electrode opposing the light-incident portion. Incident light reaches the photocathode through the opening without being scattered or absorbed at all. The transmittance of light incident on a photomultiplier is improved, and the output waveform is uniformed, resulting in an improved S/N ratio.

Fig.6





European Patent Office

## **EUROPEAN SEARCH REPORT**

Application Number EP 96 20 0804

	DOCUMENTS CONS	IDERED TO B	E RELEVAN	I ·	
Category	Citation of document with of relevant p		opriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
x	FR-A-1 443 279 (COM PHILIPS) * page 1, right-ham page 2, left-hamd of 2 *	nd column, pai	ragraph 5 -	1,8	H01J43/06
A	US-A-3 873 867 (GI March 1975 * column 2, line 4 figures *			1,8	
A	PATENT ABSTRACTS 01 vol. 015, no. 070 1991 & JP-A-02 291655 (1 3 December 1990, * abstract *	(E-1035), 19 (	·	1,8	
					TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			:		Н01Ј
	The present search report has	been drawn up for all o	laims		
		1	of completion of the search		Examiner
X : part Y : part doc A : tect	THE HAGUE CATEGORY OF CITED DOCUME ticularly relevant if taken alone ticularly relevant if combined with ar ument of the same category mological background		T : theory or principl E : earlier patent doc after the filing da D : document cited in L : document cited fi	e underlying the cument, but public te n the application or other reasons	ished on, or
A:tech O:non			L : document cited for other reasons & : member of the same patent family, corresponding document		

EPO FORM 1503 03.82 (P04C01)